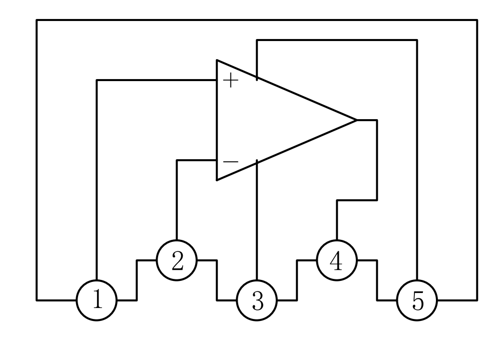
10W AUDIO AMPLIFIER—TDA2003

DESCRIPTION

The TDA2003 has very low number of external components, ease of assembly, space and cost saving, are maintained. The device provides a high output current capability (up to 3.5A) very low harmonic and cross- over distortion. Completely safe operation is guaranteed due to protection against DC and AC short circuit between all pins and ground, thermal over-range, load dump voltage surge up to 40V and fortuitous open ground.

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Tamb=25℃)

PARAMETER	SYMBOL	VALUE	UNIT
Peak Supply Voltage(50ms)	Vccp	40	V
DC Supply Voltage	Vcc	28	V
Operating Supply Voltage	Vcc	18	V
Output Peak Current(repetitive)	Io	3.5	A
Output Peak Current (non repetitive)	Io	4.5	A
Power Dissipation at Tc=90℃	P_D	20	W
Ambient operating temperature	Topr	-20～+75	℃
Storage And Junction Temperature	Tstg	-40～+150	℃

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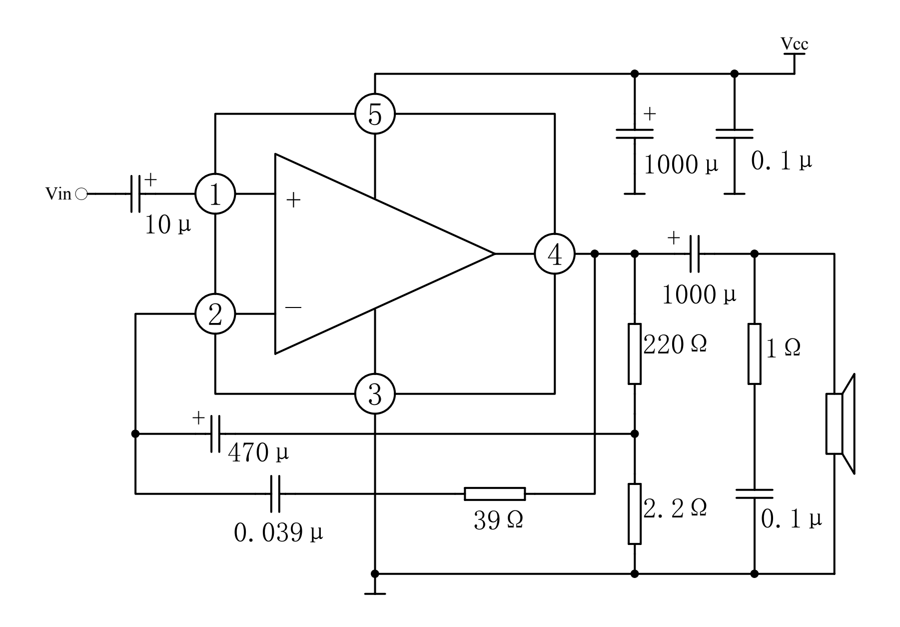
SHENZHEN OFFICE Tel: 86-755-83740369 Fax: 86-755-83741418

ELECTRICAL CHARACTERISTICS

(Tamb=25℃, V=16.5V, f=1kHz, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	NIN	TYP	MAX	UNIT
Supply Voltage	Vcc		8		18	V
Quiescent Output Voltage	Vo		6.1	6.9	7.7	V
Quiescent Drain Current	Iccq			44	50	mA
Output Power	Po	THD=10%, R_L=4Ω	5.5	6		W
		THD=10%, R_L =2Ω	9	10		
		THD=10%, R_L =3.2Ω		7.5		
		THD=10%, R_L =1.6Ω		12		
Input Saturation Voltage	Vim			300		mV
Input Sensitivity	Vi	Po=0.5W, R_L =4Ω		14		mV
		Po=6W, R_L =4Ω		55		
		Po=0.5W, R_L =2Ω		10		
		Po=10W, R_L =2Ω		50		
Frequency Response	BW	Po=1W, R_L =4Ω	40 to 15000			Hz
Distortion	THD	Po=0.05～4.5W, R_L =4Ω		0.15		%
		Po=0.05～7.5W, R_L =2Ω		0.15		%
Input Resistance (pin 1)	Zi	f=1kHz	70	150		KΩ
Input Noise Current	l_{NI}			60	200	pA
Input Noise Voltage	V_{NI}			1	5	μV
Voltage Gain (Open Loop)	Gvo	f=1kHz		80		dB
		f=10kHz		60		dB
Voltage Gain (closed Loop)	Gv	R_L =4Ω	39.3	40	40.3	dB
Efficiency	η	Po=6W, R_L =4Ω		69		%
		Po=10W, R_L =2Ω		65		%
Supply Voltage Rejection	SVR	f=100Hz, Vr=0.5V Rg=10kΩ, R_L =4Ω	30	36		dB

APPLICATION CIRCUIT



OUTLINE DRAWING

Inches / millimeters

